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(54) **Television receiver.**

(57) A television receiver 1 is linked with a number of detectors (for example ultra-sonic burglar alarms 2 and 3, a smoke detector 4, an assistance alarm 5 and a microphone 6 for detecting the crying of a baby) located throughout a home. When any of the detectors 3 are activated, an appropriate message identifying the relevant source is flashed onto the television screen in order to notify the viewer. The connection between detectors and the television receiver utilizes the existing mains supply wiring (7).

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TELEVISION RECEIVER

The present invention relates to a television receiver, and also to an electrical installation including a television receiver.

The present invention provides a television receiver characterised by incorporating circuits, said circuits having:

means to identify an alert signal from at least one signal detector which, in use, is remote from the receiver and is connected to the receiver via the electrical mains wiring system; and

means to alter the output, during operation of the receiver, of the television receiver upon identification of such an alert signal.

The detector(s) may be, inter alia, a burglar alarm, a smoke detector an "assistance" alarm or a microphone or any combination of these.

In one form of the invention, the means to alter the output includes means to indicate that such an alert signal has been received at the receiver. This may be for example by the superimposing of wording or images or both on the television screen, by an audio signal or by a light or similar indicator on the television housing or any combination of these. Thus the television viewer is notified whenever a detector is activated, so that surveillance of premises can be maintained while watching the television receiver.

In another form of the invention the means to alter the

output includes means to lower the sound output of the set. Thus when the television set receives the alert signal from the detector the television sound is automatically decreased or turned off.

The invention also provides an electric installation comprising a television receiver as disclosed above, and at least one detector of signals which is remote from the receiver and is connected to the receiver via the electrical mains wiring system such that, in use, upon detection of a signal that detector transmits an alert signal to the receiver.

The connection between the at least one detector and the receiver may include infra-red, ultrasound or pulsed light (e.g. coherent) transmission of the alert signal before it passes along the electrical mains wiring system; this would avoid cabling between the detector and the nearest input to the mains, such cabling could be inconvenient, unsightly, expensive and may be hazardous.

In order that the invention may more readily be understood, a description is now given, by way of example only, reference being made to the accompanying sole Figure which is a schematic diagram of an electrical installation embodying the present invention.

In the illustrated installation a television receiver 1 is linked with a number of detectors 2, 3, 4, 5 and 6, throughout a home, so that when any detector is activated, an appropriate message identifying the relevent source is flashed onto the television screen in order to notify the viewer. The connection between detectors and the television receiver utilises the existing mains supply wiring 7.

Some detectors suitable for surveillance by the illustrated installation include ultra-sonic burglar alarms 2 and 3 located in different rooms, a smoke detector 4, an "assistance" alarm 5 (described in greater detail below) and a microphone 6 for detecting the crying of a baby.

The operation of burglar alarm 2 will be described in more

detail, the other detectors working in the same way except for the modifications described later.

When burglar alarm 2 detects a movement in the room under surveillance an electrical signal is passed to a coder/modulator 2' which adds a code identifying the source, the resulting signal now comprising two bytes of information. Using frequency shift key techniques, with frequencies of 150 and 152 KHz (or whatever frequencies are appropriate subsequent to the pending standardization discussions), the signal is converted to a digital form which is transmitted down the live and neutral lines of the electrical mains wiring circuit 7 to television receiver 1.

A demodulator in the television receiver 1 retrieves the digital signal from the live and neutral lines and feeds it to a microprocessor unit which analyses the source coding of the signal. Only if this corresponds to an actual code used in the particular installation does the microprocessor send a command signal to the teletext unit of receiver 1 to superimpose for five seconds the words "Burglar alarm 3" on the screen picture and to thereby indicate that the burglar alarm 3 has been activated.

Clearly the particular operations of the microprocessor may vary somewhat dependent on the source from which the signal derives, for example the unit may send additional command signals to other destinations e.g. for a signal from a burglar alarm a bell may be switched on and/or an alarm in a neighbouring house or in a police station may be activated.

The "assistance" alarm 5 enables a person in one room to request assistance from the television viewer in another room, this being particularly useful for the elderly and handicapped. In operation, the user switches on the alarm 5, causing a transmitter 8 to emit pulses of infra-red radiation, and directs it towards an infra-red receiver 9 which is mounted on a wall and which is electrically connected, via a coder/modulator 9' to the electrical mains wiring circuit 7.

In this form, alarm 5 can be continuously carried by the user. In other forms the infra-red link is replaced by electric cable, the alarm being either fixed in one position or capable only of limited movement.

A detector and the associated coder/modulator may be in a single unit with pins to slide directly into a standard mains power socket; alternatively the unit may be spaced from, but electrically connected to (via electric cables) the mains circuitry 7 during use.

The installation can include a number of detectors of any one type (e.g. the "assistance" alarm) in different rooms of a building, in which case the television receiver 1 displays an alert message indicating the location, as well as the type of detector which has been activated.

The present invention can be used in any other suitable location for example in a hotel or in a nursing home.

CLAIMS

1. A television receiver characterised by incorporating circuits, said circuits having:

means to identify an alert signal from at least one signal detector (2, 3, 4, 5 or 6) which, in use, is remote from the receiver (1) and is connected to the receiver (1) via the electrical mains wiring system (7); and

means to alter the output, during operation of the signals, of the television receiver (1) upon identification of such an alert signal.

2. A receiver according to claim 1 characterised by the means to alter the output including means to indicate that such an alert signal has been received at the receiver.

3. A receiver according to claim 2, characterised by the indication means having means to superimpose wording, at least one pictorial image or both, on the screen of the television receiver (1).

4. A receiver according to claim 3, characterised by the indication means utilizing teletext facilities to effect the superimposition.

5. A receiver according to any one of claims 2 to 4 characterised by the indication means having means to produce an audio signal from a loudspeaker of the receiver (1).

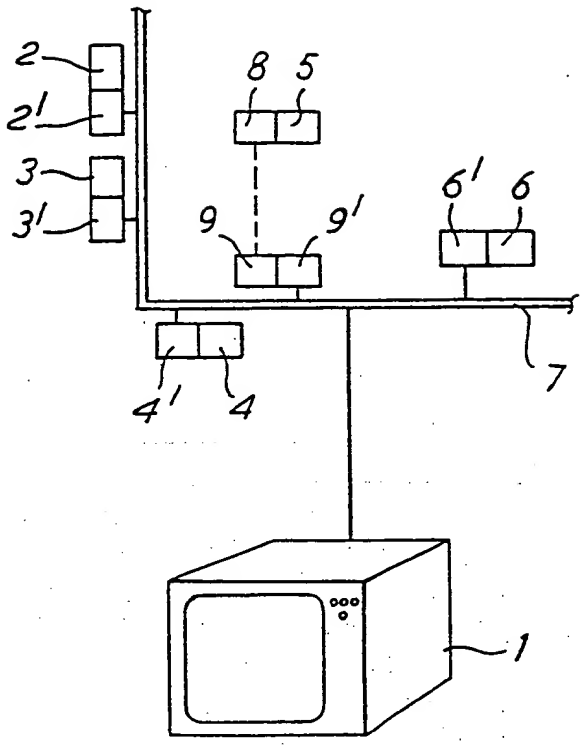
6. A receiver according to any one of claims 2 to 5 characterised by the indication means having means to switch on a light on the housing of the receiver.

7. A receiver according to anyone of the preceding claims wherein the means to alter the output includes means to lower the sound output of the receiver.

8. An electric installation comprising a television receiver (1) according to any one of the preceding claims; and at least one detector (2, 3, 4, 5 or 6) of signals which is remote from the receiver (1) and is connected to the receiver via the electrical mains wiring system (7) such that, in use,

upon detection of a signal that detector transmits an alert signal to the receiver.

9. An installation according to claim 8, wherein the connection between the at least one detector (2, 3, 4, 5 or 6) and the receiver (1) includes infra-red, ultrasound or pulsed light (e.g. coherent) transmission of the alert signal before it passes along the electrical mains wiring system (7).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